

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

VAREX IMAGING CORP.,

Plaintiff,

Case No. 18-cv-6911

v.

RICHARDSON ELECTRONICS, LTD.,

Judge John Robert Blakey

Defendant.

MEMORANDUM, OPINION, AND ORDER

Plaintiff Varex Imaging Corporation sued Defendant Richardson Electronics, Ltd. for patent infringement. Along with its complaint, Plaintiff filed a motion seeking a preliminary injunction [10]. For the reasons explained below, this Court denies the motion.

A. Factual Background

Plaintiff produces X-ray tubes, including its flagship product, the MCS-7078 X-ray tube, nicknamed the Snowbird. [33] at ¶¶10, 12. The technology developed in concert with the Snowbird project resulted in the issuance of numerous patents from the United States Patent and Trademark Office, including U.S. Patent No. 6,456,692 (the ‘692 patent”), entitled “High Emissive Coatings on X-Ray Tube Components” and U.S. Patent U.S. Patent No. 6,519,317 (the ‘317 patent), entitled “Dual Fluid Cooling System for High Power X-Ray tubes.” *Id.* at ¶¶11, 27, 31. The ‘692 patent is

generally directed towards an X-ray tube with a vacuum enclosure in which a cathode generates electrons that are converted into X-rays upon collision with a rotating anode, which is supported by a rotor incorporating a highly emissive coating, and in which the bearing assembly that supports the rotor is located at least partially within the rotating anode.

Id. at ¶30. The ‘317 patent is

generally directed towards a system and method for cooling a high-power X-ray tube in which an X-ray tube is disposed within a housing, a first coolant in the housing absorbs heat from the X-ray tube, and a second coolant flows through a passageway within the tube that directs the flow of the second coolant proximate to a portion of the X-ray tube.

Id. at ¶34. The Snowbird X-ray tube incorporates the emissive coating claimed in the ‘692 patent and the dual coolant system claimed in the ‘317 patent. *Id.* at ¶36. Plaintiff owns all rights in both patents. *Id.* at ¶¶28, 32.

Plaintiff sells its Snowbird X-ray tubes exclusively to Toshiba/Canon for use in the Toshiba/Canon Aquilion Computed Tomography (“CT”) System. *Id.* at ¶10. For any given CT scanner, Toshiba/Canon will purchase numerous X-ray tubes, as the tubes are consumables and will need to be replaced multiple times during the scanner’s lifespan. *Id.* at ¶16. When Toshiba/Canon returns spent Snowbird tubes to Plaintiff, Plaintiff will scrap the X-ray tube insert and examine components to see if they can be refurbished and reused; the tube itself is destroyed. *Id.* at ¶25.

Defendant manufactures and sells aftermarket components for medical devices, including an X-ray tube called the ALTA750, an alternative to the Snowbird X-ray tube. *Id.* at ¶¶37–38. Defendant manufactures the ALTA750 using a combination of used Snowbird components and newly-manufactured components. *Id.* at ¶¶41–44.

The ALTA750 X-ray tube is then placed within a used Snowbird X-ray tube housing and sold. *Id.* at ¶45.

Plaintiff sued Defendant on October 15, 2018 for patent infringement and filed an amended complaint on November 27, 2018. *See* [1], [33]. Plaintiff alleges (in count 1 of its amended complaint) that Defendant infringes at least claims 1, 3, 6, 7, and 12 of the ‘692 patent, in violation of 35 U.S.C. § 271(a). Claims 1 through 3¹ read as follows:

1. An x-ray tube comprising:
 - a vacuum enclosure having an electron source and anode disposed therein, said anode having a target surface positioned to receive electrons emitted by said electron source;
 - a rotor at least partially received within said anode, and wherein the rotor is operably connected to the anode;
 - a bearing assembly rotatably supporting said rotor and at least partially received within said anode so that said rotor is at least partially interposed between said bearing assembly and said anode; and
 - an emissive coating disposed on at least a portion of said rotor that is disposed within the anode, the coating being comprised of a material that increases the emissivity of the rotor surface.
2. An x-ray tube as defined in claim 1, further comprising at least one cooling structure disposed proximate said emissive coating wherein heat emitted from said emissive coating is at least partially absorbed by said at least one cooling structure.
3. An x-ray tube as defined in claim 2, wherein said at least one cooling structure comprises an annular extended surface concentrically disposed about said rotor.

[33-1], p. 10 ('692 patent, col. 9, lines 31–54). Claim 6 (which depends from claim 1) and claim 7 (which depends from claim 6), claim:

¹ Plaintiff alleges that Defendant infringes claims 1 and 3 but does not allege that Defendant infringes claim 2. But because claim 3 depends from claim 2, Defendant cannot infringe each and every element of claim 3 without also infringing claim 2. Accordingly, the Court includes claim 2 here as well.

6. An x-ray tube as defined in claim 1, wherein said emissive coating comprises a mixture of titanium oxide and aluminum oxide.

7. An x-ray tube as defined in claim 6, wherein said mixture comprises approximately 13% titanium oxide and approximately 87% aluminum oxide.

Id. ('692 patent, col. 9, lines 59–64). And, finally, claim 12 (which depends from claim 1) claims:

12. The x-ray tube as recited in claim 1, wherein said rotor comprises an inner surface proximate said bearing assembly and an outer surface proximate said anode, said emissive coating being disposed at least on said outer surface.

Id. ('692 patent, col. 10, lines 9–12).

Plaintiff also alleges, in count 2 of its amended complaint, that Defendant infringes at least claims 34–37 of the '317 patent, in violation of 35 U.S.C. § 271(a) and (b). Those claims read as follows:

34. An x-ray device, comprising:

(a) an x-ray tube substantially disposed within a housing; and

(b) a cooling system, the cooling system including:

(i) a first coolant disposed in the housing so that at least a portion of heat dissipated by the x-ray tube is absorbed by the first coolant; and

(ii) at least one fluid passageway capable of directing a flow of a second coolant proximate to at least a portion of the x-ray tube so that at least a portion of heat dissipated by the x-ray tube is absorbed by the second coolant, the at least one fluid passageway being at least partially defined in a shield structure disposed between a target anode and an electron source of said x-ray tube.

35. The x-ray device as recited in claim 34, wherein said at least one fluid passageway is at least partially defined within a target cooling block that is positioned at a point that is substantially adjacent to a target anode of the x-ray tube.

36. The x-ray device as recited in claim 34, wherein said first coolant comprises a dielectric fluid.

37. The x-ray device as recited in claim 34, wherein said second coolant comprises water and alcohol.

[33-1], at p. 31 ('317 patent, col. 18, lines 8–30).

A week after initiating this lawsuit, Plaintiff moved for a preliminary injunction [10], seeking to stop Defendant from making and selling its ALTA750 X-ray tubes.

B. Discussion & Analysis

The Patent Act authorizes courts to grant injunctions to prevent violations of patent rights, 35 U.S.C. § 283, though a preliminary injunction “is an extraordinary remedy never awarded as of right.” *Wind Tower Trade Coal. v. United States*, 741 F.3d 89, 95 (Fed. Cir. 2014) (quoting *Winter v. Nat. Res. Def. Council, Inc.*, 555 U.S. 7, 24 (2008)). A party seeking a preliminary injunction must show that it will suffer irreparable harm without the injunction; that traditional legal remedies are inadequate to compensate it; and that it has some likelihood of succeeding on the merits of its claims. *E.g., Girl Scouts of Manitou Council, Inc. v. Girl Scouts of the USA, Inc.*, 549 F.3d 1079, 1085–86 (7th Cir. 2008). If a plaintiff fails to meet just one of these prerequisites, the request for a preliminary injunction must be denied. *McDavid Knee Guard, Inc. v. Nike USA, Inc.*, 683 F. Supp. 2d 740, 744 (N.D. Ill. 2010) (citing *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1366–67 (Fed. Cir. 2008)).

To prove a likelihood of success on the merits, a patentee must show both the validity of its patents and defendant’s infringement of the patents, a showing that depends upon the meaning of the asserted claims and their relationship to the

accused product. *Chamberlain Grp, Inc. v. Lear Corp.*, 516 F.3d 1331, 1339–40 (Fed. Cir. 2008); *Reebok, Int'l Ltd. v. J. Baker, Inc.*, 32 F3d 1152, 1555 (Fed. Cir. 1994). Thus, any likelihood of success analysis begins with the parties’ arguments on validity and claim construction. See, e.g., *Tinnus Enterprises, LLC v. Telebrands Corp.*, 846 F.3d 1190, 1203 (Fed. Cir. 2017) (An infringement analysis involves the two-step process of construing the claims and comparing the properly construed claims to the accused product.). This case stands in an unusual posture because Plaintiff indicates in its motion that it does not believe the Court needs to resolve any claim construction issues at this time, see [12], p. 20, and Defendant does not disagree but also has not conceded infringement; instead, Defendant argues that Plaintiff’s patents are invalid because every limitation of the asserted claims from the patents in suit were disclosed in the prior art, see [31], p. 21; [69], pp. 13–15.² And Plaintiff has responded to the invalidity argument with contradictory arguments. See [61], pp. 30–33. So the current record remains less than fully developed as to both claim construction and invalidity (the latter consisting of competing arguments and declarations), impeding this Court’s ability to make definitive rulings concerning any likelihood of success at this time.³

² The invalidity argument bolsters the Court’s conclusion today that a preliminary injunction should not issue. See, e.g., *Liquid, Inc. v. L’Oreal USA, Inc.*, 720 F. App’x 623, 629–30 (Fed. Cir. 2018) (“If the alleged infringer presents a ‘substantial question’ of invalidity, and the patent holder does not establish the likely lack of merit of the invalidity contention, the preliminary injunction should not issue.”) (citations omitted); *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1359 (Fed. Cir. 2001) (“In resisting a preliminary injunction, [a defendant] need not make out a case of actual invalidity. Vulnerability is the issue at the preliminary injunction stage, while validity is the issue at trial. The showing of a substantial question as to invalidity thus requires less proof than the clear and convincing showing necessary to establish invalidity itself.”).

³ In fact, the Court raised this issue with the parties at the August 15, 2019 motion hearing. But the parties declined the Court’s invitation to decide the present issues on a full evidentiary record.

As it turns out, however, the Court need not resolve these arguments now, because Plaintiff has failed to demonstrate that it will suffer irreparable harm absent preliminary injunctive relief. *See Reebok Int'l Ltd. v. J. Baker, Inc.*, 32 F.3d 1552, 1556 (Fed. Cir. 1994) (because a movant must establish both a likelihood of success on the merits and irreparable harm, the district court may deny a preliminary injunction based upon the movant's failure to establish either of these two crucial factors without making additional findings respecting the other factors.).

To prove irreparable harm, a patentee must show that: (1) absent an injunction, it will suffer irreparable harm; and (2) a sufficiently strong causal nexus relates the alleged harm to the alleged infringement. *Apple Inc. v. Samsung Elecs. Co.*, 695 F.3d 1370, 1374 (Fed. Cir. 2012). To determine whether the patentee will suffer irreparable harm absent an injunction, the Court may consider factors such as the nature of competition between the patentee and the infringer, the willingness of a patentee to license, and any lost sales the patentee has proven. *Presidio Components, Inc. v. Am. Tech. Ceramics Corp.*, 875 F.3d 1369, 1383 (Fed. Cir. 2017), cert. denied, 139 S. Ct. 144 (2018). Here, Plaintiff has shown that it does not license its products. But the other two factors weigh in Defendant's favor: the record shows that the parties do not compete in the relevant market, and Plaintiff has not proven lost sales.

Plaintiff argues that, absent injunctive relief, it will suffer lost market share, loss of goodwill and future business opportunities, and loss of reputation as an innovator. Plaintiff also argues that it will suffer irreparable harm because its patents will expire during this litigation.

Turning first to market share, the record fails to support Plaintiff's argument that Defendant's alleged infringement has resulted in lost sales and loss of market share. Plaintiff sells its new tubes only to Toshiba/Canon, [14], ¶ 13, and Defendant does not sell to Toshiba/Canon. The two do not directly compete when it comes to newly-manufactured X-ray tubes. The record also fails to show any drop in sales to Toshiba/Canon. Indeed, Plaintiff and Toshiba/Canon re-upped their exclusive agreement in August of 2018, after the accused product entered the market, maintaining sales levels—and pricing—through 2020. *See* [31-2], p. 2 (showing the same target volume and pricing information as the three-Year Pricing Agreement executed April 1, 2017, [31-1], p. 3). Plaintiff has offered no evidence to show that the target volume fell after Defendant released the accused product.

Plaintiff also claims that Defendant's actions have damaged its relationship with Toshiba/Canon: beyond lost sales, Plaintiff argues that absent injunctive relief its ability to maintain Toshiba/Canon as a development partner and to attract other development partners *could be* substantially compromised. Such harm is not only speculative but belied by the evidence. Plaintiff's Chief Executive Officer, Sunny Sanyal, conceded that Plaintiff had not lost any projects with Toshiba/Canon. [70-2], p. 145.

Plaintiff further argues that Defendant's product has purportedly caused a drop in sales in the "replacement tube market." But the record shows that any such lost sales would come at Toshiba/Canon's expense and not at Plaintiff's expense. Plaintiff's arguments implicitly concede this point. For example, Plaintiff claims that,

before Defendant's intrusion into Plaintiff's "exclusive market for replacement tubes for Canon's Aquilion scanners," Plaintiff "was the only manufacturer and (*through Canon*) the only supplier of such tubes." [70], p. 4; App. 263–64, 338, 457, 632 (emphasis added). But now, Plaintiff argues, Defendant "is competing for those sales, including by inducing end-users not to renew their service contracts *with Canon*." *Id.*; App. 274–75, 327 (emphasis added). Plaintiff's expert opines that Defendant's conduct will cause *Canon* to sell fewer Snowbird products. [53], p.3 (emphasis added). This argument might be effective if Toshiba/Canon were suing for lost market share. But Toshiba/Canon is not a Plaintiff here. And Plaintiff has not explained, or otherwise presented evidence to support, how it would have standing to assert a claim for Toshiba/Canon's potential loss in future sales.

Along the same lines, Plaintiff argues that "for every replacement tube sale Richardson makes (when a customer purchases an ALTA750 from Richardson instead of a Snowbird *from Canon*), Varex loses a sale of a replacement tube to Canon. [70], App. 252, 267–69, 364, 457. Initially, the record shows that Toshiba/Canon buys tubes new from Varex for its scanners and there is no evidence in the record that it will accept a refurbished or rebuilt tube. Toshiba/Canon buys only from Plaintiff and does not buy from Defendant. As such, there exists no evidence to support Plaintiff's attenuated lost sales argument. Moreover, this theory, that Plaintiff is claiming lost sales in a different market (namely, the replacement tube market), undermines Plaintiff's allegation that X-ray tubes are consumables, and that there exists no

recognized industry or market for repair or replacement of Snowbird X-ray tubes.⁴

In addition to being included as an allegation of Plaintiff's amended complaint, this argument stood at the crux of Plaintiff's response to Defendant's motion to dismiss on the basis of patent exhaustion. [33], ¶ 66.

As to irreparable harm, Plaintiff also claims that Defendant's infringement causes damage to Plaintiff's reputation as an innovator. The Federal Circuit has acknowledged that damage to a patentee's reputation as an innovator can constitute irreparable harm. For example, in *Douglas Dynamics, LLC v. Buyers Products Co.*, 717 F.3d 1336, 1344 (Fed. Cir. 2013), the Federal Circuit held that irreparable harm "encompasses different types of losses that are often difficult to quantify, including lost sales and erosion in reputation and brand distinction." In that case, the court determined that the patentee's product (a snowplow) was the "Mercedes Benz S550" of snowplows, and the accused product was akin to a Ford Taurus. *Id.* Recognizing that "buyers interested in purchasing the Mercedes, when presented with both choices, would not likely switch to the Ford and vice versa," the court held that

if the Ford made its place in the market by infringing on the intellectual property of the Mercedes and capitalized on its similarity to the better product, then the harm to the Mercedes product might go beyond a simple counting of lost sales—some of which would occur anyway if the Ford marketed itself effectively as a "Mercedes at half the price." The Mercedes would lose some of its distinctiveness and market lure because

⁴ If Plaintiff were to concede that a market exists for refurbished X-ray tubes (and that the accused product constitutes a refurbished tube), the Court would have to reconsider its prior findings distinguishing this case from *Impression Products, Inc. v. Lexmark International, Inc.*, 137 S. Ct. 1523 (2017); See [87] (noting that the line between repair (preserving the useful life of the original article) and reconstruction (making a substantially new article) is drawn based upon the facts of the case, and finding that, on the record before the Court—which was not fully developed—Plaintiff had alleged facts to support its claim that Defendant's actions fell on the reconstruction side of the line)).

competitors could contend that they had “similar features” without noting that those features infringe Mercedes’s proprietary technologies.

Id. There are several problems with this argument in this case. First, a finding of such harm generally requires that the patentee and the alleged infringer compete toe-to-toe in the relevant market, which Plaintiff has not demonstrated is the case. Plaintiff is selling new tubes to Canon, and Defendant is selling tubes to others in the aftermarket. Thus the record suggests that Defendant is not trying to pass its “Ford” off as a “Mercedes”; rather, this case appears to fall within the principle explained in *Douglas Dynamics* that “buyers interested in purchasing the Mercedes, when presented with both choices, would not likely switch to the Ford.” In short, Toshiba/Canon wants the “Mercedes” and buys it from Plaintiff.

More importantly, for infringement to cause such reputational harm, the patents at issue must involve the features or qualities that create the reputation as an innovator amongst consumers. *See, e.g., Apple Inc. v. Samsung Electronics Co., Ltd.*, 809 F.3d 633, 653–54 (Fed. Cir. 2015) (Apple has a strong reputation as being an innovator in the smartphone and tablet market; Apple’s marketing strategy was “The Product as Hero,”—that is, the features of the product are the emphasis of the marketing, not, e.g., price, customer service, etc., and the patents at issue cover the types of features that made Apple’s products the “hero.”) (Reyna, Circuit Judge, concurring). Significant to Judge Reyna’s decision in *Apple* was the fact that the patents in suit “covered features that consumers regularly interact with, thereby influencing how consumers perceive Apple, not latent features which consumers may not be aware of.” *Id.* at 954. In contrast, the patents at issue in this lawsuit involve,

in the case of the ‘692 patent, an emissive coating and, in the case of the ‘317 patent, a dual fluid cooling system, both of which exist within the vacuum enclosure of an X-ray tube and neither of which is seen by the end user or consumer. In other words, this case is not *Apple*, and Plaintiff has not explained how its reputation as an innovator will be damaged by the presence of Defendant’s product elsewhere in the market.

Plaintiff also argues that it will be harmed absent injunctive relief because its right to exclude will end within the next year or two. The Federal Circuit has rejected this argument, *see Reebok*, 32 F.3d at 1558–59 (“if the right to exclude during the litigation period alone established irreparable harm, the presumption of irreparable harm stemming from a finding of likely success could never be rebutted, for every patentee whose motion for a preliminary injunction is denied loses the right to exclude an accused infringer from the market place pending the trial”; “acceptance of that position would require a finding of irreparable harm to every patentee, regardless of the circumstances”). This Court similarly rejects the argument.

Finally, the Court notes that a preliminary injunction “should not issue if the accused infringer ‘raises a substantial question concerning either infringement or validity.’” *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1364 (Fed. Cir. 2017) (quoting *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1350 (Fed. Cir. 2001)). As explained in the Court’s order on Defendant’s motion to dismiss [87], Defendant has raised a substantial question as to whether the doctrine of patent exhaustion will ultimately bar the asserted claims. Plaintiff has attempted to argue

in connection with the present motion that Defendant competes with it in the “replacement tube aftermarket” and that it has lost sales in this market as a result of Defendant’s infringement. But, as noted above, this argument contradicts the thrust of the arguments raised in response to Defendant’s motion to dismiss. Plaintiff appears to be arguing that the tubes sold in the replacement tube aftermarket are both newly-manufactured articles (when sold by Defendant) and replacements for newly-manufactured Snowbird tubes (when sold by Canon for Plaintiff). Plaintiff cannot have the factual record both ways. Either the tubes Defendant sells are refurbished, in which case Defendant’s patent exhaustion defense remains viable, or they are reconstructed new articles, unquestionably sold to customers other than Plaintiff’s sole customer, in which case Canon (but not Plaintiff) may be able to blame Defendant for its lost sales and lost market share. In either case, however, Plaintiff has failed to demonstrate an entitlement to preliminary injunctive relief at this point in the proceedings.

C. Conclusion

For the reasons explained above, the Court finds that Plaintiff has failed to demonstrate that, absent preliminary relief, it will suffer irreparable harm before a decision can be rendered on the merits of its claims. Accordingly, the Court denies Plaintiff's motion for preliminary injunction [10].

The case is set for a case management conference on October 17, 2019 at 10:15 a.m. in Courtroom 1203. The parties should be prepared at that time to set all remaining dates for the lifecycle of the case.

Dated: September 30, 2019

Entered:



John Robert Blakey
United States District Judge